PERFORMANCE REPORT

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FEDERAL AID IN SPORT FISH RESTORATION ACT

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FEDERAL AID PROJECT F-30-R-31

STATEWIDE FRESHWATER FISHERIES MONITORING AND MANAGEMENT PROGRAM

2005 Survey Report

Joe Pool Reservoir

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SURVEY AND MANAGEMENT SUMMARY

Fish populations in Joe Pool Reservoir were surveyed in 2005 using electrofishing and trap nets and in 2006 using gill nets. This report summarizes the results of the surveys and contains a management plan for the reservoir based on those findings.

- **Reservoir Description:** Joe Pool Reservoir, a 6,469-acre reservoir located on Mountain Creek (a tributary of the Trinity River), was constructed in 1986 by the U.S. Army Corps of Engineers for flood control, water supply, recreation, and fish and wildlife enhancement. It was opened to public fishing in August 1989. It is located in Tarrant, Ellis and Dallas Counties four miles south of Grand Prairie, Texas. Habitat is composed mainly of rocky habitat, aquatic vegetation in the form of hydrilla, and flooded timber.

- **Management history:** Important sport fish include white bass, largemouth bass, white crappie, and channel catfish. Largemouth bass have been intensively managed through harvest regulations and opened with an 18 inch minimum length limit and was changed to a 14-to 21- inch slot length limit in Fall 1992

- Hydrilla was first discovered in Joe Pool Reservoir in 1994. Coverage was less than 1 acre until it expanded to approximately 116 acres in 2003. Although hydrilla is an exotic species and can be problematic, the increase in coverage has increased largemouth population abundance and has appeared to increase growth rates.

- **Fish Community**
  - **Prey species:** Gizzard and threadfin shad are present in the reservoir. However, catch rates of these species remain well below averages of other district reservoirs. The total catch rate and the catch rate of bluegills over 5 inches has increased over the past couple of years.

  - **Catfishes:** For the first time in sampling history, blue catfish were captured by gill netting. Size of blue catfish captured indicates the species is reproducing. An angler catch of a large blue catfish was verified in the fall of 2005. It has yet to be determined how the blue catfish entered into Joe Pool Reservoir as no official stockings were conducted. The catch rate of channel catfish remained near the reservoir average. Flathead catfish are present but none were captured this past survey year.

  - **White bass:** Past gill netting surveys revealed a small population of white bass present in Joe Pool Reservoir. In 2006 white bass were caught at a high rate by gill netting. The increase in the white bass population has resulted in the development of several fishing guide businesses.

  - **Largemouth bass:** The largemouth bass population has increased in abundance which could be attributed to the increase in aquatic vegetation. The catch rate of fish > 14 inches in length has increased over the past two samples. Growth rates appear to be improving for fish aged 2 years. Population size structure and body condition continue to be below average.

  - **White crappie:** The white crappie population continued to exhibit fluctuations in abundance with trap net catch rates lower than in previous years.

- **Management Strategies:** Because of below average threadfin shad catch rates, threadfin shad will be stocked in the spring annually to increase available forage to sport fishes.

Intensive age and growth analysis will be conducted to determine if growth rates are improving and the most appropriate regulation for largemouth bass. Optional electrofishing surveys will be conducted in 2006, 2007, and in 2008, and general monitoring with trap nets, gill nets, and electrofishing surveys in 2009-2010. Aquatic vegetation surveys will be conducted annually to monitor hydrilla coverage.

INTRODUCTION

This document is a summary of fisheries data collected from Joe Pool Reservoir in 2005-2006. The purpose of the document is to provide fisheries information and make management recommendations to protect and improve the sport fishery. While information on other species of fishes was collected, this report deals primarily with major sport fishes and important prey species. Historical data are presented with the 2005-2006 data for comparison.

Reservoir Description

Joe Pool Reservoir is a 6,469-acre impoundment constructed in 1986 on Mountain Creek (a tributary of the Trinity River), by the U.S. Army Corps of Engineers for flood control, water supply, recreation, and fish and wildlife enhancement. It is located in Tarrant, Ellis and Dallas Counties four miles south of Grand Prairie, Texas. The watershed was primarily agricultural but is being developed for residential purposes. Land use on the northeast side of the reservoir is maintained by Cedar Hill State Park. Joe Pool Reservoir is an oligotrophic reservoir and is ranked highest among major reservoirs in Texas as having limited chlorophyll a production and low total phosphorus levels (Texas Commission on Environmental Quality 2005). This has probably had an impact in the limited forage available for sport fish populations and is probably the main obstacle to improving largemouth bass growth rates, body conditions, and size structure and. Angler and boat access is adequate. Most of the fishing facilities are accessible to the handicapped. At the time of sampling the fishery habitat was primarily aquatic vegetation in the form of hydrilla. Other descriptive characteristics for Joe Pool Reservoir are in Table 1.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Brock 2001) included:

Evaluate effectiveness of 14- to 21- inch slot length limit. Conduct additional spring electrofishing sampling to monitor largemouth bass population.

Action: With the increase in coverage of aquatic vegetation largemouth bass abundance has increased. The catch rate of largemouth bass > 14 inches in length has increased over the past two samples. However structural indices of the population exhibit limited improvement. Statistical analysis was not performed due to limited pre-regulation data, change in sampling design from fixed sample site selection to random sample site selection, and habitat composition after regulation implementation. Additional spring electrofishing was not performed because it was deemed unnecessary when evaluating the effectiveness of the slot length limit.

Harvest regulation history: Sport fish populations in Joe Pool Reservoir were managed with statewide regulations with the exception of largemouth bass (Table 2). From 1989 to 1991, largemouth bass were managed with an 18-inch minimum length limit. A 14- to 21-inch slot length limit was implemented in 1992 to improve growth rates, fish condition, and the population size structure.

Stocking history: Joe Pool Reservoir was stocked in 2005 and 2006 with Florida largemouth bass. The stockings were conducted to increase the Florida largemouth bass genetic influence. The complete stocking history is in Table 3.

Vegetation/habitat history: Joe Pool Reservoir aquatic vegetation is currently composed of sporadic stands of American pondweed and dense stands of hydrilla. Hydrilla was first observed in Joe Pool Reservoir in 1994. At that time it composed less than a 0.10 acres. No hydrilla was observed in vegetation surveys conducted in 1995, 1996, 1997, 1999 and 2000. Small stands (less than 1 acre in

size) of hydrilla were observed in 1998 and again in 2001 near the Lynn Creek Park boat ramps. In 2002, hydrilla was evident at numerous locations around the reservoir with a total coverage estimated to be 13 acres. In 2003 hydrilla expanded to an estimated 116 acres. In 2004 and 2005 hydrilla coverage has fluctuated between 120 and 100 acres. Large dense stands of hydrilla are primarily along the shores of Cedar Hill State Park and Lynn Creek Park. The boat ramps and swimming beaches were treated at both parks in summer of 2004 with aquatic herbicide. In summer of 2005, the City of Grand Prairie again conducted herbicide treatments to their swimming areas and boat ramps and also conducted a first time herbicide treatment at Britton Park.

METHODS

Fishes were collected by electrofishing (1.5 hours at 18 5-min stations), gill netting (10 net nights at 10 stations), and trap netting (10 net nights at 10 stations). Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/hr) of actual electrofishing and, for gill and trap nets, as the number of fish per net night (fish/nn). All survey sites were randomly selected and all surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2002).

Sampling statistics (CPUE for various length categories), structural indices [Proportional Stock Density (PSD), Relative Stock Density (RSD)], and condition indices [relative weight (Wr)] were calculated for target fishes according to Anderson and Neumann (1996). Index of vulnerability (IOV) was calculated for gizzard shad (DiCenzo et al. 1996). Relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE statistics and SE was calculated for structural indices and IOV. Ages for largemouth bass and crappie were determined using otoliths from all fish collected over stock size. Source for water level data was the United States Geological Survey website.

RESULTS AND DISCUSSION

Habitat: Littoral zone habitat consisted primarily of rocky habitat, gravel, and aquatic vegetation in the form of hydrilla (Table 4).

Prey species: The electrofishing catch rate of threadfin and gizzard shad have remained well below the district averages of 217.0/hr and 268.0/hr respectively for the past several surveys. The threadfin catch rates varied from a high in 2002 of 149.3/hr to a low of 21.3/hr in 2004. From 2002 to 2005 electrofishing catch rates of gizzard shad averaged 98.2/hr and ranged from 58.7/hr in 2004 to 152.0/hr in 2002 (Figure 2). Index of vulnerability for gizzard shad was poor, indicating that only 19% of gizzard shad captured in 2005 were available to existing predators; this was lower than IOV estimates in previous years (Figure 2). Electrofishing catch rates of bluegill were variable from 2002 -2005 with an average catch rate of 183.5/hr, and ranging from 346.7/hr in 2004 to 65.3/hr in 2002 (Figures 4-5). The bluegill population does not contain large numbers of quality sized fish (>6 inches) or preferred sized fish (>8 inches) as evident in PSD and RSDp values. Not surprisingly higher catch rates of bluegill coincides with the increase in the abundance of aquatic vegetation. Longear sunfish catch rates have remained fairly stable from 2002-2004 averaging 32.0/hr and ranging from 33.3/hr in 2004 to 28.7/hr in 2002 (Figures 6-7). However, in 2005 the catch rate of longear sunfish decreased to 14.0/hr.

Catfish: For the first time in sampling history, blue catfish were captured by gill netting. Although the gill netting catch rate (0.4 /nn) was very low, the size of the fish captured indicates adults are present and recruitment is occurring (Figure 8). Several catches of larger adults have also been reported by anglers. The gill net catch rate of channel catfish was 3.0/nn in 2006 which was similar to the previous samples (3.1/nn in 1997, 2.5/nn in 2002) (Figure 6). Although catch rates remain below the district average of 5.6/nn, size structure remained adequate as indicated by a PSD value of 39.

White bass: White bass were first collected by gill netting in Joe Pool in 1994. The gill netting catch

rates of white bass have historically been well below the district average of 7.9/nn and averaged only 0.85/nn in 1997 and 2002 (Figure 10). However, the catch rate in 2006 increased dramatically to 10.0/nn (Figure 10). Size structure of the population was above average as indicated by the PSD value of 89.

Largemouth bass: The total electrofishing catch rates of largemouth bass remained fairly stable from 2002-2004 averaging 72.0/hr, ranging from 55.3/hr in 2003 to 82.7/hr in 2004 (Figure 11). In 2005, the total catch rate increased to 141.3/hr (Figure 12). The catch rate of largemouth bass > 14 inches in length increased in 2004 (10.0/hr) and 2005 (18.7/hr) when compared to 2002 (4.0/hr) and 2003 (4.0/hr) (Figures 11-12). Although catch rates have increased, the size structure of the population has not improved from 2003-2005 as PSD values varied from 31 in 2003, 39 in 2004, and 28 in 2005. However, RSD-14 values appear to have steadily improved from 2003-2005 when compare to indices prior to 2003. Growth of largemouth bass in Joe Pool Reservoir remains below the district average. However there appears to be a slight improvement in growth from 2004-2005 at age 2 when compared to fish age 2 in 2002-2003 (Figure 13). Body conditions in 2005 were below optimal (relative weight under 93) for nearly all size classes of fish including fish within the slot length limit (Figure 12). This indicates a decrease in body condition when compared to body condition in 2004, but similar to the body conditions in 2002 and 2003. Florida largemouth bass influence was low as Florida alleles were 25% in 2004 and Florida genotype was 0 (Table 5).

White crappie: The trap net catch rate of white crappie was 5.2/nn in 2005, which was much lower when compared to 2002 (17.9/nn) and 2001 (18.5/nn) (Figure 14). The PSD in 2005 was 83 which was higher than the two previous samples in 2002 (63) and 2001 (77). Growth of white crappie remains average with fish reaching harvestable size between ages 1 and 2 (Figure 15).

Fisheries management plan for Joe Pool Reservoir, Texas

Prepared – July 2006.

ISSUE 1: A 14- to 21- inch slot length limit was implemented on Joe Pool Reservoir in 1992. However, due to poor forage abundance and possibly limited harvest of fish below the slot length limit, the slot length limit regulation appears to have had a limited impact on the fish population. Harvest of below slot length limit fish has been documented (Brock 2001). However the rate of harvest might not be sufficient to increase growth rates, body conditions, and improve population structure. Statistically determining the effectiveness of the slot length limit regulation compared to the previous 18 inch minimum length limit would be affected by the lack of pre regulation data, the change in sampling protocol from fixed sample site selection to random sample site selection, and the change in vegetation coverage which has occurred since the regulation was implemented. However catch rates of fish > 14 inches in length has increased over the past two samples. The growth of fish at age 2 seems to have improved over the past two samples.

MANAGEMENT STRATEGY

1. An intensive age and growth analysis will be conducted to monitor any improvement in growth and to model different length limits using the Fishery Analysis and Simulation Tools (FAST) (Slipke and Maceina, 2000) to aide in the determination of the most appropriate regulation.

ISSUE 2: Joe Pool Reservoir had over 100 acres of hydrilla in 2006. Hydrilla can cause negative impacts to fish populations and boating access. However, coverage on Joe Pool Reservoir is only 1.7% and is only a minimal problem for boating access.

MANAGEMENT STRATEGY

1. Monitor coverage of hydrilla by conducting annual aquatic vegetation surveys.
2. Begin negotiating with controlling authorities to plan for a native vegetation planting program to compensate for the loss of vegetation coverage caused by herbicide treatment of hydrilla.

SAMPLING SCHEDULE JUSTIFICATION

Electrofishing surveys will be conducted annually to monitor the largemouth bass population. General monitoring of other sport fish species with gill netting and trap netting will be conducted every 4 years. Vegetation surveys will be conducted annually to monitor hydrilla coverage.

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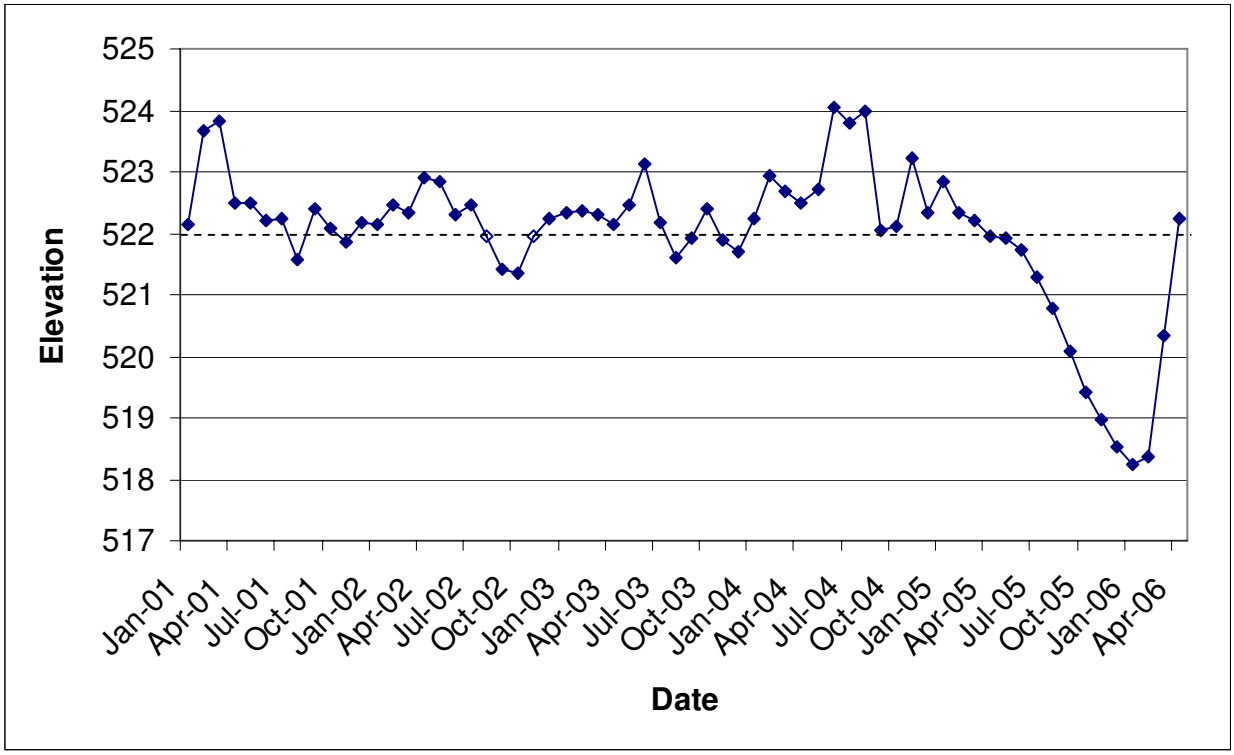


Figure 1. Mean monthly water level elevations in feet above mean sea level (MSL) recorded for Joe Pool Reservoir, Texas from January 2001-April 2006. Conservation pool is 522 feet above MSL and is indicated as the dashed line.

Table 1. Characteristics of Joe Pool Reservoir, Texas.

Characteristic	Description
Year Constructed	1986
Year Opened to public	1989
Controlling authority	United States Army Corps of Engineers
Counties	Tarrant, Dallas, Ellis
Reservoir type	Tributary Trinity River
Conductivity	375 umhos/cm

Table 2. Harvest regulations for Joe Pool Reservoir.

Species	Bag Limit	Length Limit (inches)
Catfish: channel and blue catfish, their hybrids and subspecies	25 (in any combination)	12 minimum
Catfish, Flathead	5	18 minimum
Bass, White	25	10 minimum
Bass: largemouth	5 (only 1 > 21 inches)	14 – 21 slot
Crappie: white and black crappie, their hybrids and subspecies	25 (in any combination)	10 minimum

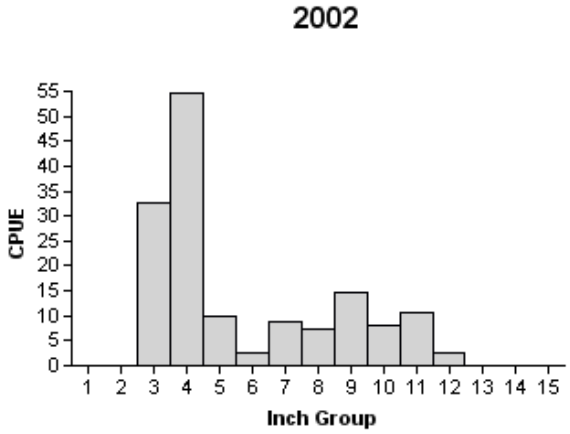
Table 3. Stocking history of Joe Pool Reservoir, Texas. Size Categories are: FRY =<1 inch; FGL = 1-3 inches; and ADL = adults.

Species	Year	Number	Size
Threadfin shad	1981	1,080	ADL
Channel catfish	1986	750,000	FGL
Florida largemouth bass	1981	2,970	FRY
	1984	2,700	FGL
	1986	665,810	FGL
	1987	203,315	FGL
	2001	182,049	FGL
	2005	317,036	FGL
	2006	325,681	FGL
	Total	1,699,561	
Coppernose bluegill	1981	19,950	FGL
	1985	125,000	FGL
	1986	5,290	FGL
	Total	150,000	

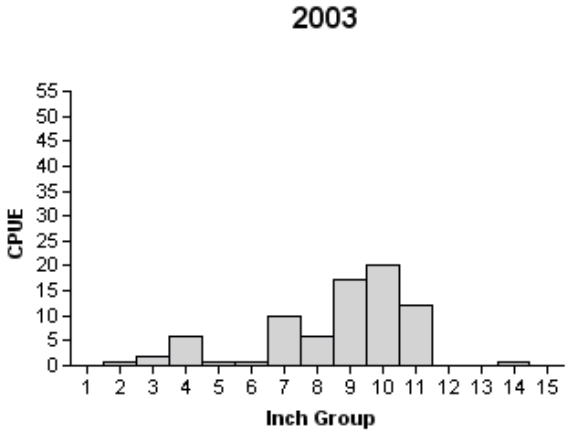
Table 4. Survey of littoral zone and physical habitat types, Joe Pool Reservoir, Texas, 2005. A linear shoreline distance (miles) was recorded for each habitat type found. Surface area (acres) and percent of reservoir surface area was determined for each type of aquatic vegetation found.

Shoreline habitat type	Shoreline Distance		Surface Area	
	Miles	Percent of total	Acres	Percent of reservoir surface area
Rocky shore	50.0	47.0		
Cut bank	0.5	0.4		
Concrete	1.5	1.4		
Gravel	9.1	8.5		
Rip rap	2.2	2.0		
Bulkhead	1.2	1.1		
Native emergent	3.8	3.6		
Standing timber	5.5	5.1		
Nondescript	22.1	21.0		
Native submerged vegetation	2.2	2.0		
Hydrilla	8.2	7.7	106	1.6%

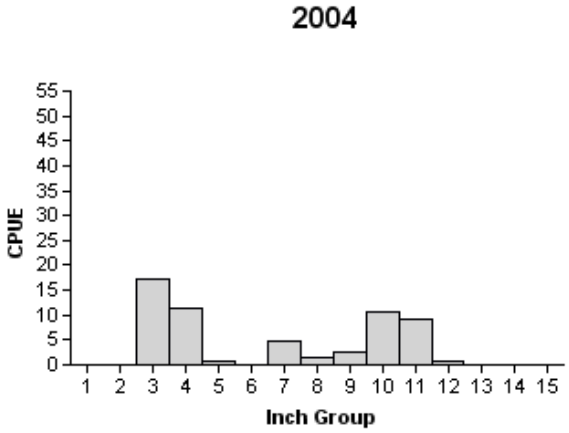
Gizzard Shad



Effort = 1.5
Total CPUE = 152.0 (33; 228)
Stock CPUE = 52.0 (29; 78)
IOV = 71.5 (0.12)



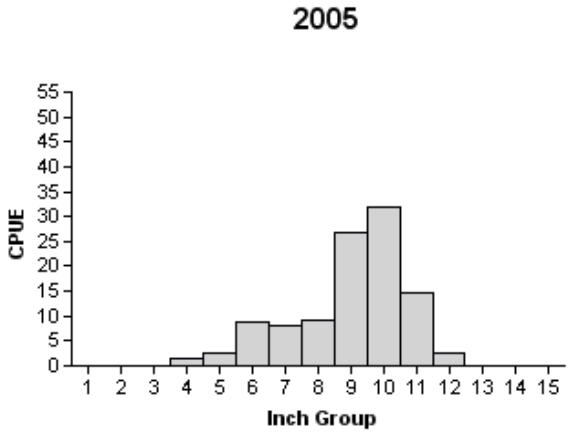
Effort = 1.5
Total CPUE = 76.0 (32; 114)
Stock CPUE = 66.0 (37; 99)
IOV = 26.3 (0.11)



Effort = 1.5
Total CPUE = 58.7 (20; 88)
Stock CPUE = 29.3 (31; 44)
IOV = 58.0 (0.14)

Figure 2. Number of gizzard shad caught per hour (CPUE; bars) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Joe Pool Reservoir, Texas, 2002, 2003, 2004, and 2005.

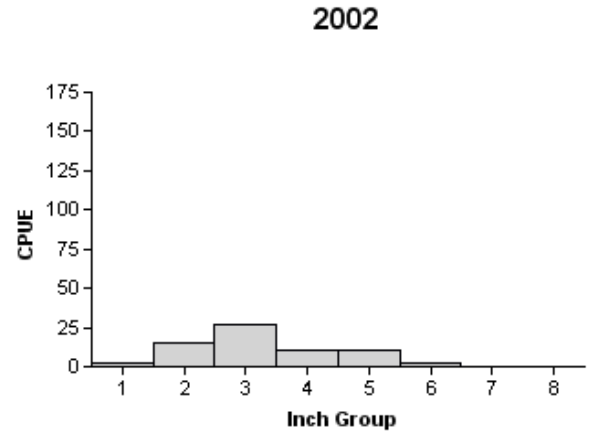
Gizzard Shad



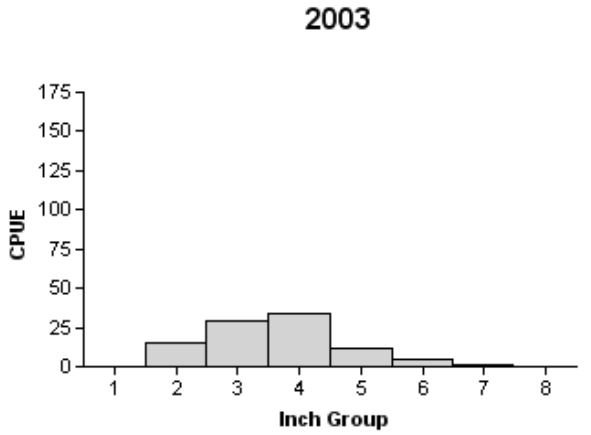
Effort =	1.5
Total CPUE =	106.0 (29; 159)
Stock CPUE =	93.3 (34; 140)
IOV =	19.5 (0.1)

Figure 2 continued.

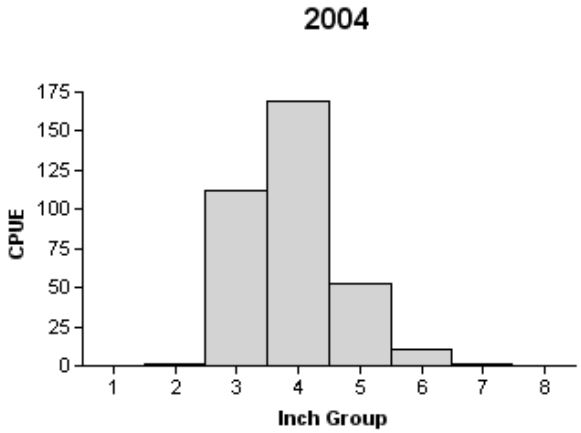
Bluegill



Effort = 1.5
Total CPUE = 65.3 (15; 98)
Stock CPUE = 48.7 (17; 73)
PSD = 4.0 (0.03)



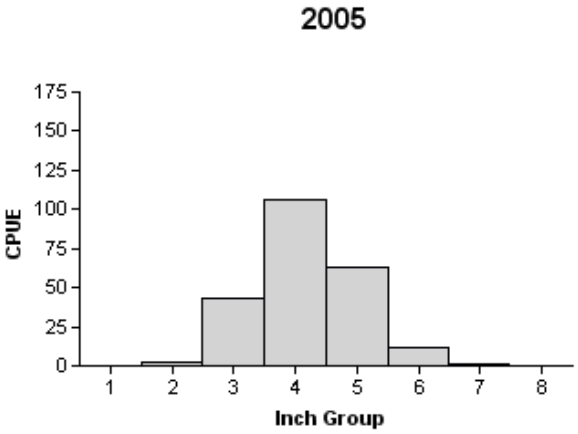
Effort = 1.5
Total CPUE = 94.0 (21; 141)
Stock CPUE = 79.3 (21; 119)
PSD = 7.0 (0.02)



Effort = 1.5
Total CPUE = 346.7 (22; 520)
Stock CPUE = 345.3 (22; 518)
PSD = 3.0 (0.01)

Figure 3. Number of bluegill caught per hour (CPUE; bars) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Joe Pool Reservoir, Texas, 2002, 2003, 2004, and 2005.

Bluegill

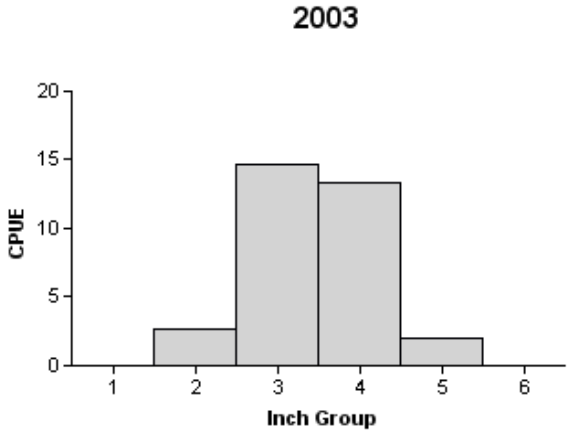


Effort = 1.5
Total CPUE = 228.0 (23; 342)
Stock CPUE = 226.0 (23; 339)
PSD = 6.0 (0.01)

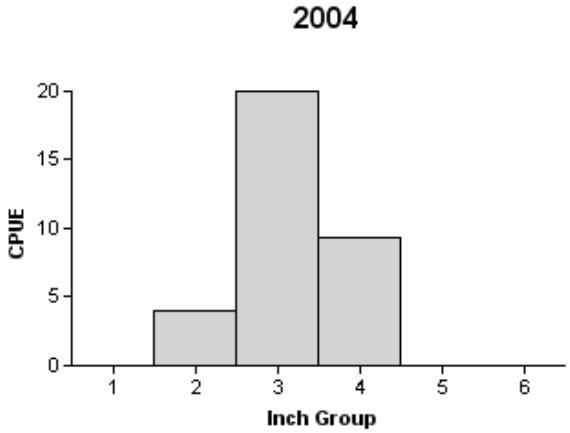
Figure 3 continued.

Longear Sunfish

Effort = 1.5
Total CPUE = 28.7 (30; 43)
Stock CPUE = 28.7 (30; 43)



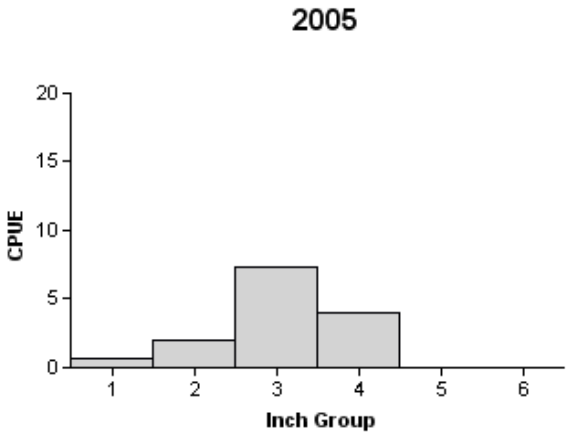
Effort = 1.5
Total CPUE = 32.7 (28; 49)
Stock CPUE = 32.7 (28; 49)



Effort = 1.5
Total CPUE = 33.3 (22; 50)
Stock CPUE = 33.3 (22; 50)

Figure 4. Number of longear sunfish caught per hour (CPUE;bars) (RSE and N for CPUE) for fall electrofishing surveys, Joe Pool Reservoir, Texas, 2002, 2003, 2004, and 2005.

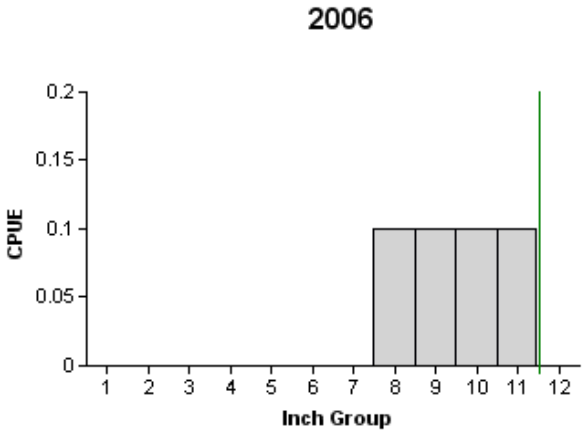
Longear Sunfish



Effort = 1.5
Total CPUE = 14.0 (19; 21)
Stock CPUE = 14.0 (19; 21)

Figure 4 continued.

Blue Catfish



Effort = 10.0
Total CPUE = 0.4 (50; 4)
Stock CPUE = 0.0 (0; 0)
PSD = 0.0 (0, 0)

Figure 5. Number of blue catfish caught per net night (CPUE; bars) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Joe Pool Reservoir, Texas, 2006. Vertical line represents length limit at time of sampling.

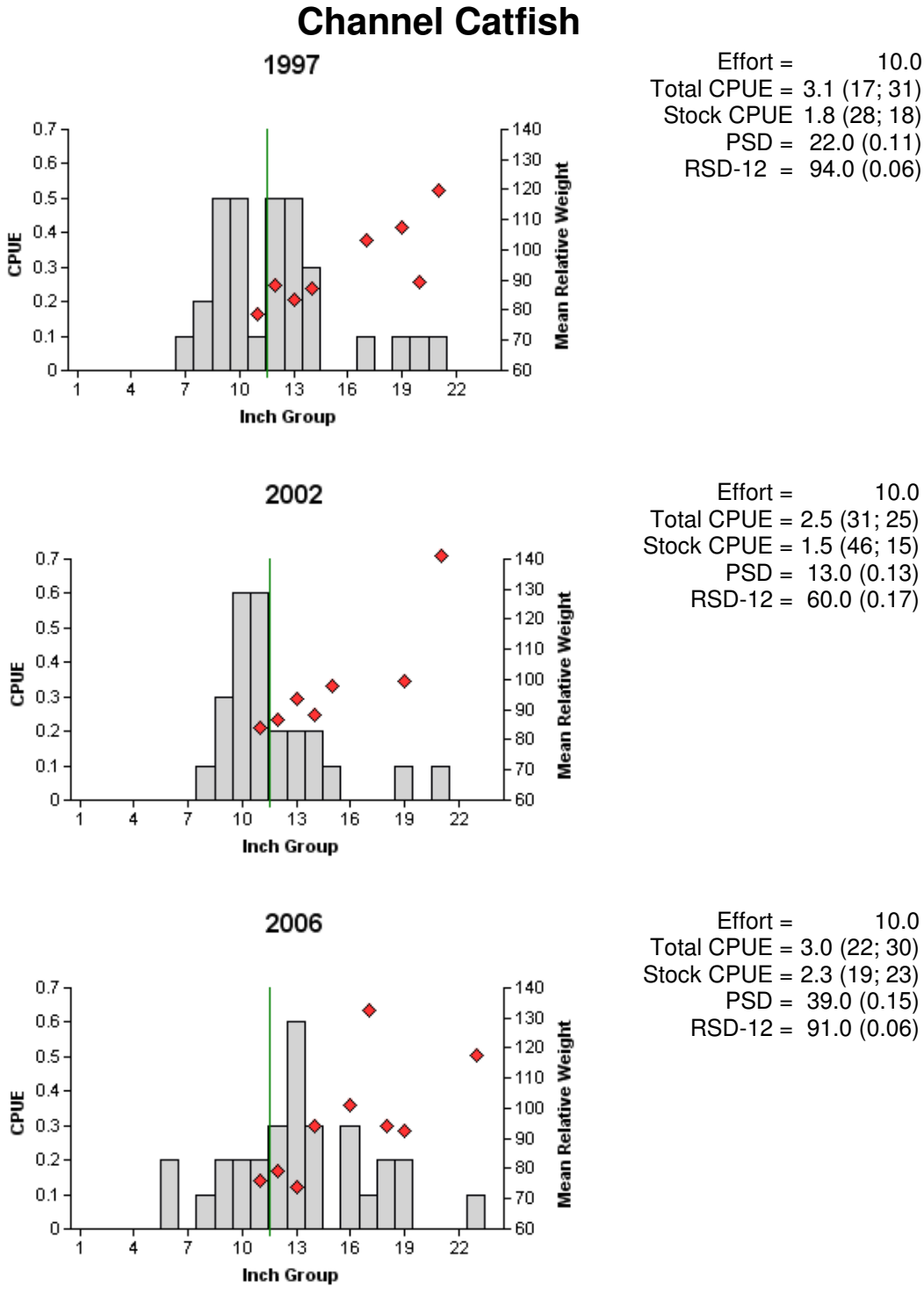
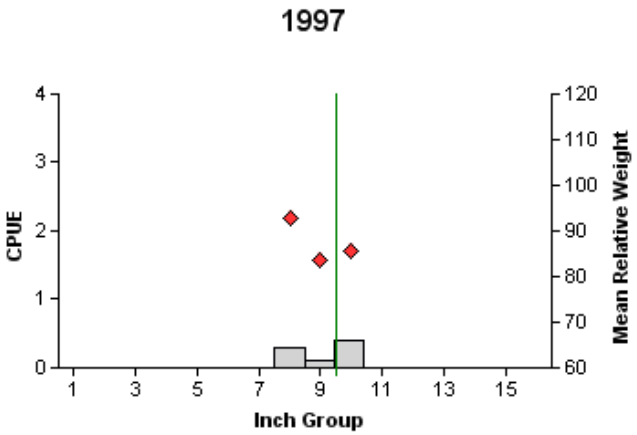
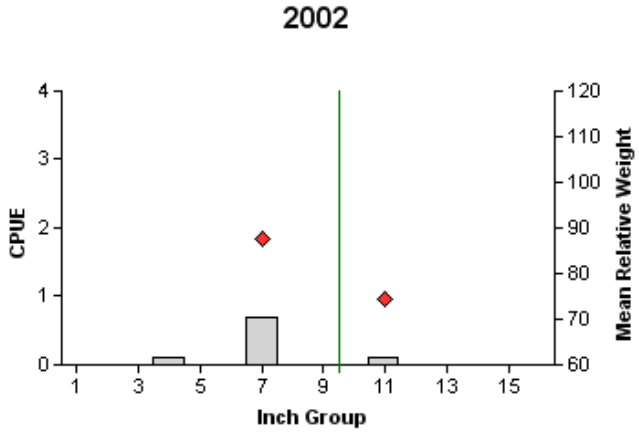


Figure 6. Number of channel catfish caught per net night (CPUE; bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for spring gill net surveys, Joe Pool Reservoir, Texas, 1997, 2002, and 2006. Vertical line represents length limit at time of sampling.

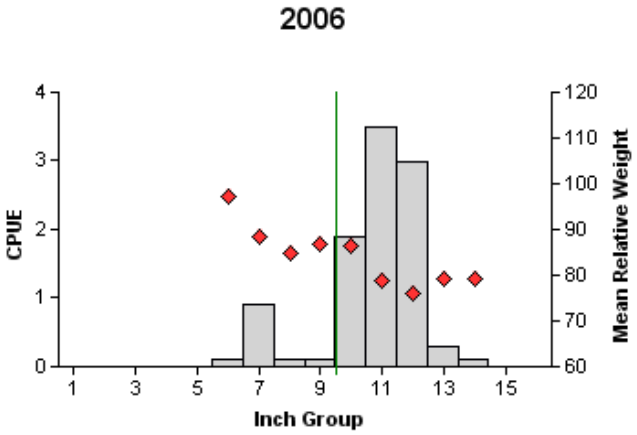
White Bass



Effort = 10.0
Total CPUE = .8 (-99; 8)
Stock CPUE .8 (-99; 8)
PSD = 62.0 (0)
RSD-12 = 0.0 (0)



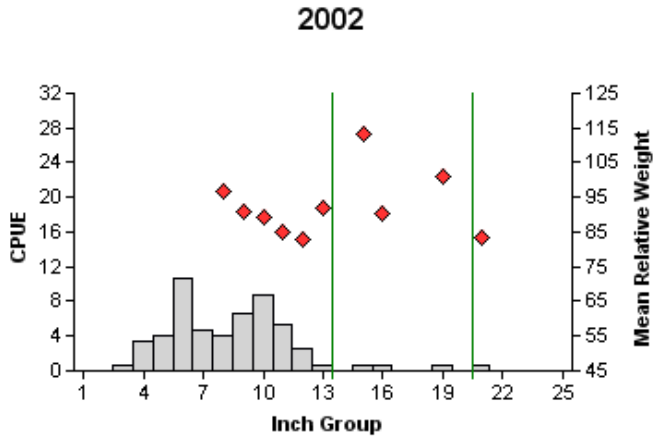
Effort = 10.0
Total CPUE = .9 (51; 9)
Stock CPUE = .8 (66; 8)
PSD = 12.0 (0.16)
RSD-12 = 0.0 (0)



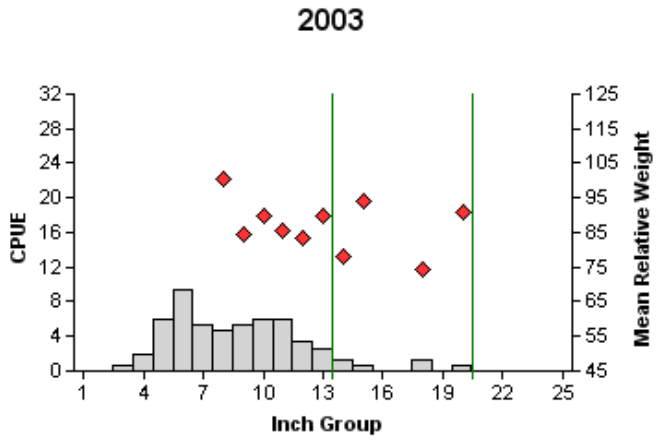
Effort = 10.0
Total CPUE = 10.0 (45; 100)
Stock CPUE = 10.0 (45; 100)
PSD = 89.0 (0.02)
RSD-12 = 34.0 (0.06)

Figure 7. Number of white bass caught per net night (CPUE; bars), mean relative weight (diamonds), and population indices (RSE and N are in parentheses) for spring gill net surveys, Joe Pool Reservoir, Texas, 1997, 2002, and 2006. Vertical line represents length limit at time of sampling.

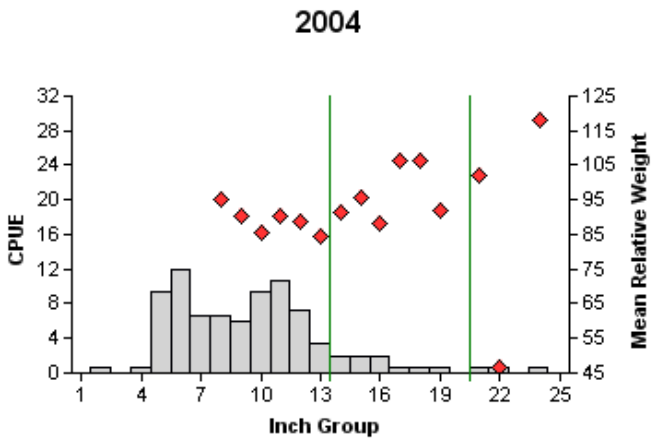
Largemouth Bass



Effort = 1.5
Total CPUE = 54.0 (14; 81)
Stock CPUE = 30.7 (15; 46)
CPUE-14 = 2.7 (45; 4)
PSD = 20.0 (0.06)
RSD-14 = 9.0 (0.04)



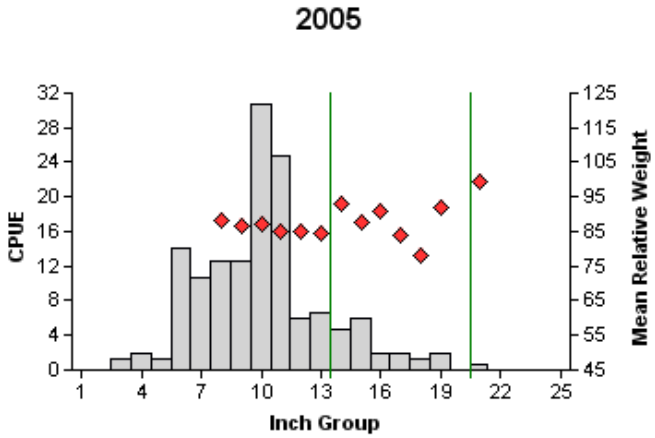
Effort = 1.5
Total CPUE = 55.3 (18; 83)
Stock CPUE = 32.0 (16; 48)
CPUE-14 = 4.0 (33; 6)
PSD = 31.0 (0.08)
RSD-14 = 12.0 (0.04)



Effort = 1.5
Total CPUE = 82.7 (31; 124)
Stock CPUE = 53.3 (22; 80)
CPUE-14 = 10.0 (28; 15)
PSD = 39.0 (0.05)
RSD-14 = 19.0 (0.03)

Figure 8. Number of largemouth bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Joe Pool Reservoir, Texas, 2002, 2003, 2004 and 2005. Vertical lines represent length limit at time of sampling.

Largemouth Bass



Effort =	1.5
Total CPUE =	141.3 (14; 212)
Stock CPUE =	112.0 (18; 168)
CPUE-14 =	18.7 (28; 28)
PSD =	28.0 (0.05)
RSD-14 =	17.0 (0.03)

Figure 8 continued.

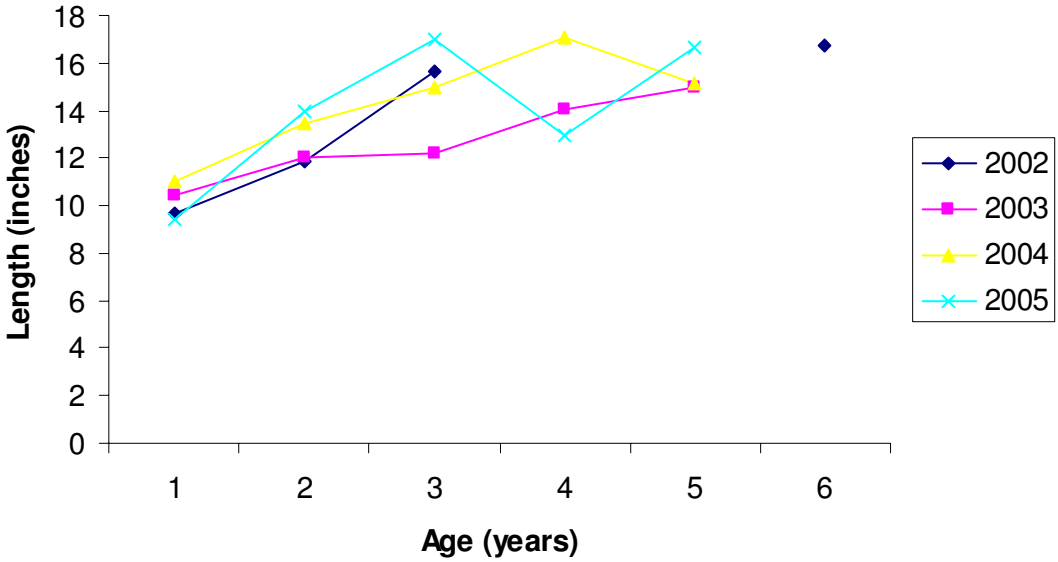
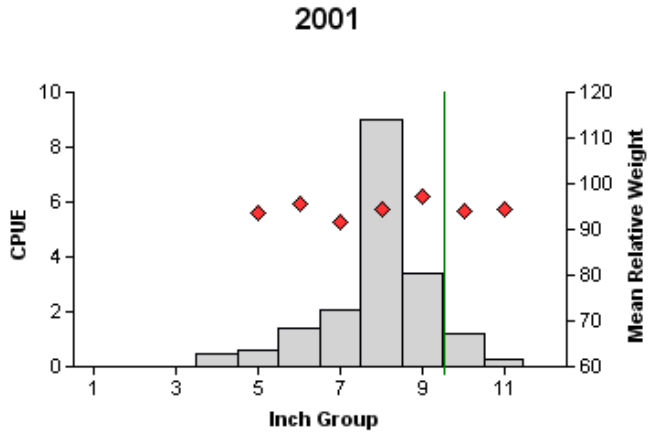


Figure 9. Length at age for largemouth bass (sexes combined) collected from electrofishing at Joe Pool Reservoir, Texas, for fall 2002, 2003, 2004, and 2005.

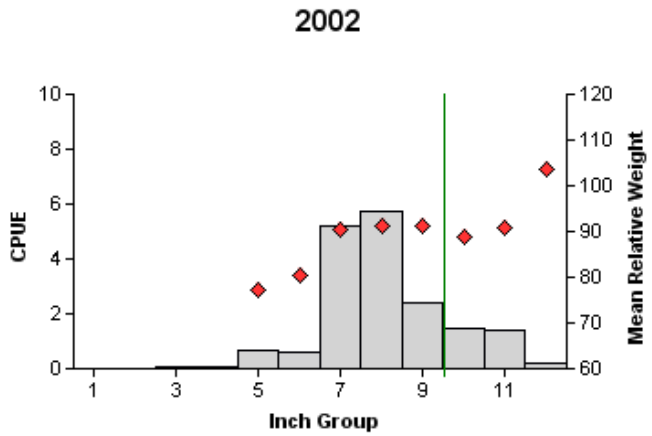
Table 5. Results of genetic analysis of largemouth bass collected by fall electrofishing, Joe Pool Reservoir, Texas, 2004. FLMB = Florida largemouth bass, NLMB = Northern largemouth bass, F1 = first generation hybrid between a FLMB and a NLMB, Fx = second or higher generation hybrid between a FLMB and a NLMB.

		Genotype					
Year	Sample size	FLMB	F1	Fx	NLMB	% FLMB alleles	% pure FLMB
2004	30	0	4	12	14	25.0	0.0

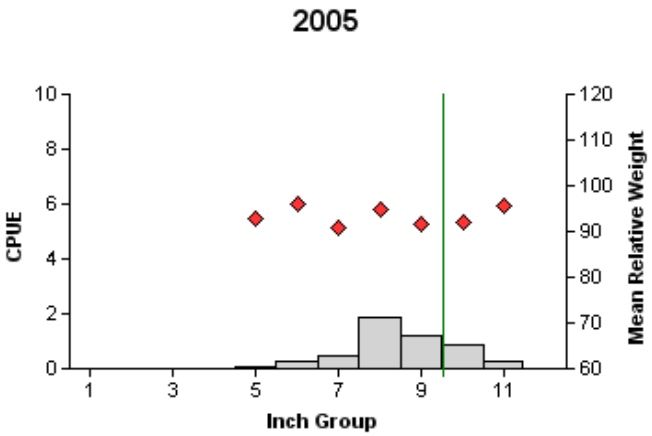
White Crappie



Effort = 10.0
Total CPUE = 18.5 (26; 185)
Stock CPUE = 18.0 (26; 180)
PSD = 77.0 (0.04)
RSD-10 = 8.0 (0.02)



Effort = 10.0
Total CPUE = 17.9 (56; 179)
Stock CPUE = 17.7 (56; 177)
PSD = 63.0 (0.02)
RSD-10 = 18.0 (0.02)



Effort = 10.0
Total CPUE = 5.2 (32; 52)
Stock CPUE = 5.2 (32; 52)
PSD = 83.0 (0.06)
RSD-10 = 23.0 (0.07)

Figure 10. Number of white crappie caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall trap net surveys, Joe Pool Reservoir, Texas, 2001, 2002, and 2005. Vertical line represents length limit at time of sampling.

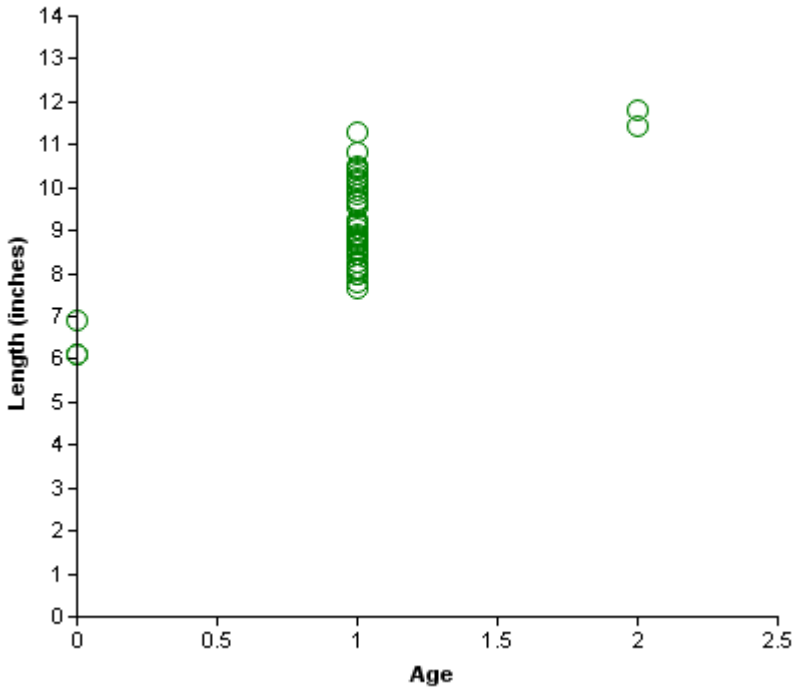


Figure 11. Length at age for white crappie collected from trap nets at Joe Pool Reservoir, Texas, December 2005.

Table 6. Proposed sampling schedule for Joe Pool Reservoir, Texas. Gill netting surveys are conducted in the spring, while electrofishing and trap netting surveys are conducted in the fall. Standard surveys are denoted by S and additional surveys denoted by A.

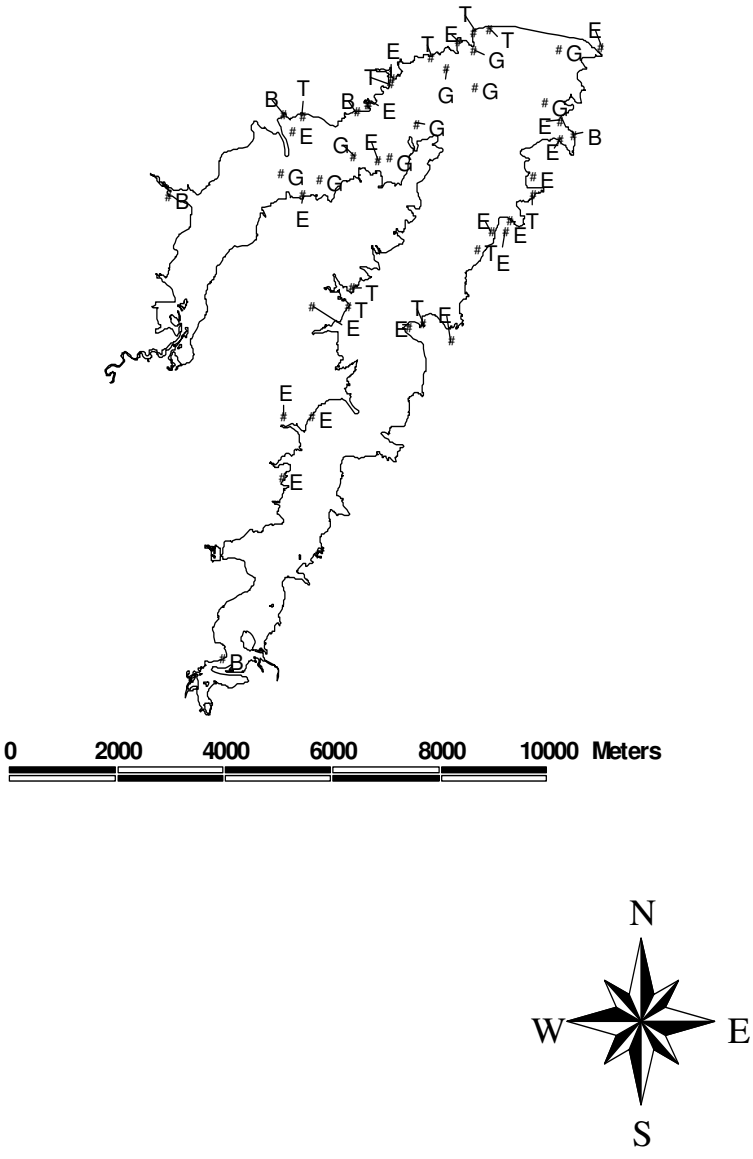
Survey Year	Electrofisher	Trap Net	Gill Net	Creel Survey	Report
Fall 2006-Spring 2007	A				
Fall 2007-Spring 2008	A				
Fall 2008-Spring 2009	A				
Fall 2009-Spring 2010	S	S	S		S

APPENDIX A

Number (N) and catch rate (CPUE) of all target species collected from all gear types from Joe Pool Reservoir, Texas, 2005-2006.

Species	Gill Netting		Trap Netting		Electrofishing	
	N	CPUE	N	CPUE	N	CPUE
Gizzard shad					159	106.0
Threadfin shad					116	77.3
Blue catfish	4	0.4				
Channel catfish	30	3.0				
White bass	100	10.0				
Bluegill					342	228.0
Longear sunfish					21	14.0
Largemouth bass					212	141.3
White crappie			52	5.2		

APPENDIX B



Location of sampling sites, Joe Pool Reservoir, Texas, 2005-2006. Trap net, gill net, and electrofishing stations are indicated by T, G, and E, respectively. Boat ramps are indicated with a B. Water level was near full pool at time of sampling.